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*Attorney for Greycliff Wind Prime, LLC.*

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

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| IN THE MATTER of the Petition of Greycliff Wind Prime, LLC To Set Terms and Conditions for Qualifying Small Power Production Facility Pursuant to M.C.A. § 69-3-603 | Cause No. D2015.8.64<br><br>GREYCLIFF WIND PRIME, LLC'S FIRST SET OF DATA REQUESTS NORTHWESTERN ENERGY |

GREYCLIFF WIND PRIME, LLC'S
FIRST SET OF DATA REQUESTS TO NORTHWESTERN ENERGY

GWP-001
Witness: Bleau J. LaFave
Page BLJ-8
Subject: "Intermittency" Adjustment

On Page BLJ-8 of NorthWestern's ("NWE") response testimony, NWE states that the forward curve was "adjusted to represent the intermittency of wind." The testimony further states that the adjustment was based on the "historic difference between the Day Ahead ("DA") firm prices and Real Time ("RT") for NorthWestern." Please answer the following questions regarding these statements:

(a) Please provide all calculations and workpapers used in calculating this adjustment, including the historical Day Ahead and Real-Time price series underlying the adjustment.

RESPONSE:

(b) Please identify the source and historical period covered by the price series used in calculating the adjustment. Also, please identify the pricing point, trading hub, or node used for both the Day Ahead and Real Time price series.

RESPONSE:

GWP-002
Witness: Bleau J. LaFave
Page BLJ-8
Subject: "Intermittency" Adjustment

On Page BLJ-8 of NWE's response testimony, NWE states that "|t|his difference in price represents the market value between firm dispatchable resources and intermittent resources delivered by Greycliff that Greycliff would receive in the market."

Please provide all studies and/or analyses relied upon in identifying, evaluating, validating and implementing the analytic approach used in adjusting the avoided cost to "represent the intermittency of wind."

RESPONSE:

GWP-003
Witness: Bleau J. LaFave
Page BLJ-8
Subject: "Intermittency" Adjustment

Please explain why the adjustment for intermittency of wind is not already reflected in NWE's proposed wind integration charge. Please provide all studies and/or analysis identifying, evaluating, validating and implementing the analytic approach justifying why the adjustment for intermittency of wind is not reflected in NWE's proposed integration charge.

RESPONSE:

GWP-004
Witness: Bleau J. LaFave
Page BLJ-17
Subject: Alternative approaches to calculating avoided cost

On Page BLJ-17 of NWE's response testimony, you state that the approach used by NWE is "the most effective means to calculate the forecasted avoided cost for a QF project."

(a) Please provide all studies and/or analyses evaluated by NWE as alternative approaches to calculate avoided cost. Please identify each alternative considered, and why it was considered less effective than the approach that NWE chose. If there were no alternatives evaluated or considered by NWE, please explain the basis for the statement that this is the most "effective means to calculate the forecasted avoided cost for a QF project."

RESPONSE:

(b) Please provide any independent studies (i.e., non-NWE) or sets of independent (i.e., non-NWE studies) analyses reviewed or relied upon by NWE in adapting the specific avoided cost approach being used, and specifically any independent study or independent analyses that outlines this approach as consistent with what is commonly referred to in the power industry as a differential revenue requirements, or a "QF-In/QF-Out" methodology.

RESPONSE:

GWP-005
Witness: Bleau J. LaFave
Page: Exhibit __ (BJL-1)
Subject: Wind integration costs associated with regulation and operating reserves

On Exhibit____ (BJL-1), you propose adjustments to the avoided cost calculation to reflect wind integration costs related to regulation and operating reserves.

Please provide a description and data inputs detailing how operating reserves are modeled in your characterization and setup of the PowerSimmTM model used to estimate avoided cost in this proceeding.

RESPONSE:

GWP-006
Witness: Luke P. Hanson
Page: LPH-4
Subject: PowerSimm Dispatch Assumptions

On Page LPH-4 of NWE's response testimony, you state that "PowerSimmTM first calculates the hourly dispatch of NorthWestern's supply portfolio and then compares the Greycliff energy production to that supply portfolio. Only after this comparison is made can the value of the Greycliff wind resource be calculated."

(a) Please provide the hourly, monthly and annual demand levels, and the hourly, monthly and annual generator dispatch levels for each NWE supply resource modeled in PowerSimmTM.

RESPONSE:

(b) Please provide the input fuel costs, emissions rates and costs, variable operating and maintenance costs, heat rates, and other parameters used by NWE in modeling its system using PowerSimmTM for purposes of estimating avoided cost in this proceeding.

RESPONSE:

(c) Please provide the hourly, monthly and annual energy and/or capacity market prices used in the PowerSimmTM simulation for purposes of estimating avoided cost in this proceeding.

RESPONSE:

(d) Please provide all workpapers, calculations and PowerSimmTM simulation output for your assessment and derivation of avoided cost in this proceeding.

RESPONSE:

GWP-007
Witness: Luke P. Hanson
Page: LPH-4
Subject: PowerSimm Dispatch Assumptions

On Page LPH-7 of NWE's response testimony, you state that the "market forecasts for carbon dioxide, coal, natural gas, and electricity were also updated" for the avoided cost calculations.

Please provide the hourly, monthly and annual price series for electricity, natural gas, coal and carbon dioxide, as those series were used in external modeling and in the PowerSimmTM simulation and derivation of NWE's avoided cost estimate.

RESPONSE:

GWP-008
Witness: Bleau J. LaFave
Page: generally
Subject: New QF Contracts

At the PSC hearing on amending or repealing ARM 38.5.1902(5), NWE's counsel indicated that NWE had entered into 13 new QF contracts, indicating a willingness on NWE's part to negotiate amicably agreements with new QFs. Please answer the following questions about this statement:

(a) How long had Greycliff been attempting to obtain a power sales agreement with NWE at the time Greycliff commenced the petition in this case (whether Greycliff was a CREP or a QF)? Please explain the basis for your answer.

RESPONSE:

(b) Please identify the projects with which NWE has entered into new QF agreements by identifying the date that each entered into a contract with NWE, the type of project (i.e., wind, solar, hydropower), the size in installed capacity (megawatts) of each project, the place by number of each project in NWE's interconnection queue and the date these negotiations commenced?

RESPONSE:

(c) Please identify whether these 13 new QFs had each met the requirements of Commission Order 6444e in Docket D2002.8.100, ¶ 47, at the time they entered into negotiations with NWE. If not, why did NWE not require this prior to commencing negotiations?

RESPONSE:

(d) Did any of these 13 new QF projects win a competitive solicitation as required by A.R.M. 38.5.1902(5)? If not, why did NWE commence negotiations with them when it would not negotiate with Greycliff on the grounds that 38.5.1902(5) required Greycliff to win a competitive solicitation as set forth in NWE's letter of July 8, 2015?

RESPONSE:

(e) Did each of these 13 new QFs provide NWE with FERC Form 556's prior to NWE negotiating with each?

RESPONSE:

GWP-009
Witness: Luke P. Hanson
Page: Generally
Subject: PowerSimm Dispatch Assumptions

Please provide a description and data inputs detailing how operating reserves are modeled in your characterization and setup of the PowerSimmTM model used to estimate avoided cost in this proceeding.

RESPONSE:

GWP-010
Witness: Luke P. Hanson
Page: LPH-4
Subject: PowerSimm Dispatch Assumptions

On Page LPH-4 of NWE's response testimony, you state that "PowerSimmTM first calculates the hourly dispatch of NorthWestern's supply portfolio and then compares the Greycliff energy production to that supply portfolio. Only after this comparison is made can the value of the 8 Greycliff wind resource be calculated." Please answer the following questions regarding this statement:

(a) Please provide the hourly, monthly and annual demand levels, and the hourly, monthly and annual generator dispatch levels for each NWE supply resource modeled in PowerSimmTM.

RESPONSE:

(b) Please provide the input fuel costs, emissions rates and costs, variable operating and maintenance costs, heat rates, and other parameters used by NWE in modeling its system using PowerSimmTM for purposes of estimating avoided cost in this proceeding.

RESPONSE:

(c) Please provide the hourly, monthly and annual energy and/or capacity market prices used in the PowerSimmTM simulation for purposes of estimating avoided cost in this proceeding.

RESPONSE:

(d) Please provide all workpapers, calculations and PowerSimmTM simulation output for your assessment and derivation of avoided cost in this proceeding.

RESPONSE:

(e) Please make a copy of the PowerSimmTM model and input dataset available for inspection and review. Greycliff and its consultants will enter into an NDA, if needed, in order to access and review proprietary software.

RESPONSE:

GWP-011
Witness: Luke P. Hanson
Page: LPH-4
Subject: PowerSimm Dispatch Assumptions

On Page LPH-7 of NWE's response testimony, you state that the "market forecasts for carbon dioxide, coal, natural gas, and electricity were also updated" for the avoided cost calculations. Please provide the following information:

(a) Please provide the hourly, monthly and annual price series for electricity, natural gas, coal and carbon dioxide, as those series were used in external modeling and in the PowerSimmTM simulation and derivation of NWE's avoided cost estimate.

RESPONSE:

(b) Please provide the U.S. EIA natural gas price series and supporting documentation used by NWE in developing its natural gas price forecast.

RESPONSE:

(c) Please explain why your avoided cost estimate does not reflect marginal compliance costs of meeting carbon dioxide emissions rate or mass based goals as published in the final rule of the U.S. Environmental Protection Agency's Clean Power Plan? For example, in its comments on the U.S. EPA's proposed Clean Power Plan rules, NWE argued that complying with the requirement would substantially increase its cost to produce electricity and may lead to retirement of coal generators.

RESPONSE:

(d) Please explain why CPP compliance costs and resource impacts are not fundamentally reflected in NWE's avoided cost estimate.

RESPONSE:

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was served, postage prepaid via first class U.S. mail on this 25th day of November, 2015, upon the following:

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The foregoing was e-filed and the original was hand-delivered to the following:

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Jackie Haskins